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PRODUCTION OF WATER REPELLENT CALCIUM SILICATE BASE FORMING

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Abrégé

PURPOSE: To inexpensively impart water repellency by bringing a calcium silicate base forming into contact with alkoxysilane vapor under vacuum and heating the resulting product.

CONSTITUTION: The calcium silicate base forming is charged into a closed vessel, and the inside of the vessel is evacuated as much as possible, for example to ≤ 400 mmHg. On the other hand, alkoxysilane (e.g. triethoxy methylsilane) is heated in the other closed vessel connected to the closed vessel with the pipe provided with a valve. The heating temp. is 40-70 deg.C and may be lower than the b.p. of the alkoxysilane at atmosphere pressure. When the pipe is opened in this state, because the vessel containing the alkoxysilane becomes to vacuum state, the alkoxysilane is vaporized and allowed to flow into the vessel of calcium silicate forming. A treating time is about 2-5 hour, a rate of absorption is 1-3wt.%. Then after removing unreacted alkoxysilane by blowing steam, the forming is taken out and heated at 100-200 deg.C for 10-60min

L4 ANSWER 386 OF 561 CA COPYRIGHT 2004 ACS on STN
 AN 110:120184 CA
 ED Entered STN: 03 Apr 1989
 TI Hydraulic cement with high durability and strength
 IN Uchida, Shunichiro; Habara, Toshisuke
 PA Onoda Cement Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C04B007-345
 CC 58-1 (Cement, Concrete, and Related Building Materials)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63248751	A2	19881017	JP 1987-79717	19870402
PRAI	JP 1987-79717		19870402		

AB The hydraulic cement contains $11\text{CaO} \cdot 7\text{Al}_2\text{O}_3 \cdot \text{CaX}_2$ (X = halogen) 5-30, anhydrite 5-30, $\text{Al}(\text{OH})_3$ and/or $\text{Al}_2(\text{SO}_4)_3$ 0.5-10%, and balance Ca silicate and/or siliceous powder at a $(\text{CaO}-3\text{Al}_2\text{O}_3-\text{SO}_3)/\text{SiO}_2$ mol ratio .1 to req. 1.7. Thus, cement, comprising $11\text{CaO} \cdot 7\text{Al}_2\text{O}_3 \cdot \text{CaF}_2$ 13, C3S 27, blast-furnace slag 40, anhydrite 19, and $\text{Al}(\text{OH})_3$ 1 wt.%, was mixed with sand, alkali-resistant glass fiber, Mighty 150, HNO_3 (as setting retardant), and water, molded, and hardened to give a cement product having initial, 7-, and 91-day bending strength 240, 320, 290 kg/cm², resp.
 ST calcium aluminate hydraulic cement; silicate calcium hydraulic cement; anhydrite hydraulic cement; aluminum hydrixodde hydraulic cement; blast furnace slag hydraulic cement
 IT Glass fibers, uses and miscellaneous
 RL: USES (Uses)
 (cement reinforced with, manuf. of

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

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APPLICATION NUMBER : 05327477

APPLICANT : SEKISUI CHEM CO LTD;

INVENTOR : NITTA KATSUZO;

INT.CL : C04B 12/04 C04B 7/24 C04B 7/32 C04B 28/26 //(C04B 28/26 , C04B 14:30 ,
C04B 14:06 , C04B 16:06), (C04B 28/26 , C04B 14:06 , C04B 16:06)

TITLE : CURABLE INORGANIC COMPOSITION

ABSTRACT : PURPOSE: To obtain a curable inorganic composition capable of producing an inorganic formed article having excellent strength and durability.

CONSTITUTION: This composition is composed of 100 pts.wt. of an inorganic powdery material comprising 0.5-80wt.% of one or more of aluminum based additives selected from the group consisting of alumina cement, γ -alumina, flame sprayed alumina and sodium meta-aluminate and 99.5-20wt.% of the flyash having activated surface and an average particle diameter of $\leq 5.0\mu\text{m}$ obtained by subjecting flyash to a pulverization treatment, 3-200 pts.wt. of an alkali-metal silicate and 3-200 pts.wt. of water.

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(C) WPI / DERWENT

XP-002389191

AN - 1995-290083 [38]

AP - JP19930327477 19931224

CPY - SEKI

DC - L02

FS - CPI

IC - C04B7/24 ; C04B7/32 ; C04B12/04 ; C04B28/26

MC - L02-C03 L02-C07

PA - (SEKI) SEKISUI CHEM IND CO LTD

PN - JP7187734 A 19950725 DW19953B C04B12/04 005pp

PR - JP19930327477 19931224

XA - C1995-130302

XIC - C04B-007/24 ; C04B-007/32 ; C04B-012/04 ; C04B-028/26 ; (C04B-014/06
C04B-014/30 C04B-016/06 C04B-028/26) ; (C04B-014/06 C04B-016/06
C04B-028/26)

AB - J07187734 Inorganic compsn. contains Al system additives contg. one or
more of alumina cement, gamma alumina, thermally sprayed alumina (in
total) 0.5-80 wt. %, inorganic powder (by wt. rate) 100, which
contains fly-ash 99.5-20 wt. % of average grain dia. less than 5.0
mum, with alkali metal silicate: 3-200 and water: 3-200.

- ADVANTAGE - Effective utilisation of fly-ash as industrial waste.

- (Dwg. 0/0)

C - C04B28/26 C04B14/06 C04B14/30 C04B18/06 ;

- C04B28/26 C04B14/06 C04B18/06

IW - HARDEN INORGANIC COMPOSITION CONTAIN ALUMINIUM SYSTEM ADDITIVE
CONTAIN

ALUMINA CEMENT GAMMA ALUMINA THERMAL SPRAY ALUMINA INORGANIC POWDER
CONTAIN FLY ASH ALKALI METAL SILICATE

IKW - HARDEN INORGANIC COMPOSITION CONTAIN ALUMINIUM SYSTEM ADDITIVE
CONTAIN

ALUMINA CEMENT GAMMA ALUMINA THERMAL SPRAY ALUMINA INORGANIC POWDER
CONTAIN FLY ASH ALKALI METAL SILICATE

NC - 001

OPD - 1993-12-24

ORD - 1995-07-25

PAW - (SEKI) SEKISUI CHEM IND CO LTD

TI - Hardenability inorganic compsn. contg. aluminium system additives -
contains alumina cement, gamma alumina and/or thermally sprayed
alumina, inorganic powder which contains fly-ash and alkali metal
silicate

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<p>96-205378/21 L02 SEKISUI CHEM IND CO LTD 94.09.07 94JP-213602 (96.03.19) C04B 38/02, 12/04, 14/24, 18/08, 20/00, 20/06, 22/06, 28/26 Formable inorganic compsn. with uniform pores - comprises fly ash contg. powder of specified particle size, reactive inorganic powder, a silicate, inorganic filler etc. C96-065166</p>	<p>SEKI 94.09.07 *JP 08073283-A L(2-D4A, 2-D13A)</p>
<p>Compsn. comprises a fly ash contg. at least 80 wt.% of a powder having up to 10 micron particle dia., 100 pts.wt. of reactive inorganic powder, i.e., clay and meta-kaolin, 0.2-450 pts.wt. of alkali metal silicate, 20-800 pts.wt. of column or needle shaped inorganic filler, 0.01-10 pts.wt. of 0.01-10 pts.wt. of hydrogen peroxide, and 35-1500 pts.wt. of water. <u>ADVANTAGE</u> Provides uniform pores. (11pp108DwgNo.0/0)</p>	<p>JP 08073283-A</p>